



# **Noncancer Health Impacts Methodology**

November 13, 2007  
Commerce Railyards



Air Resources Board  
California Environmental Protection Agency



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## **Overview**

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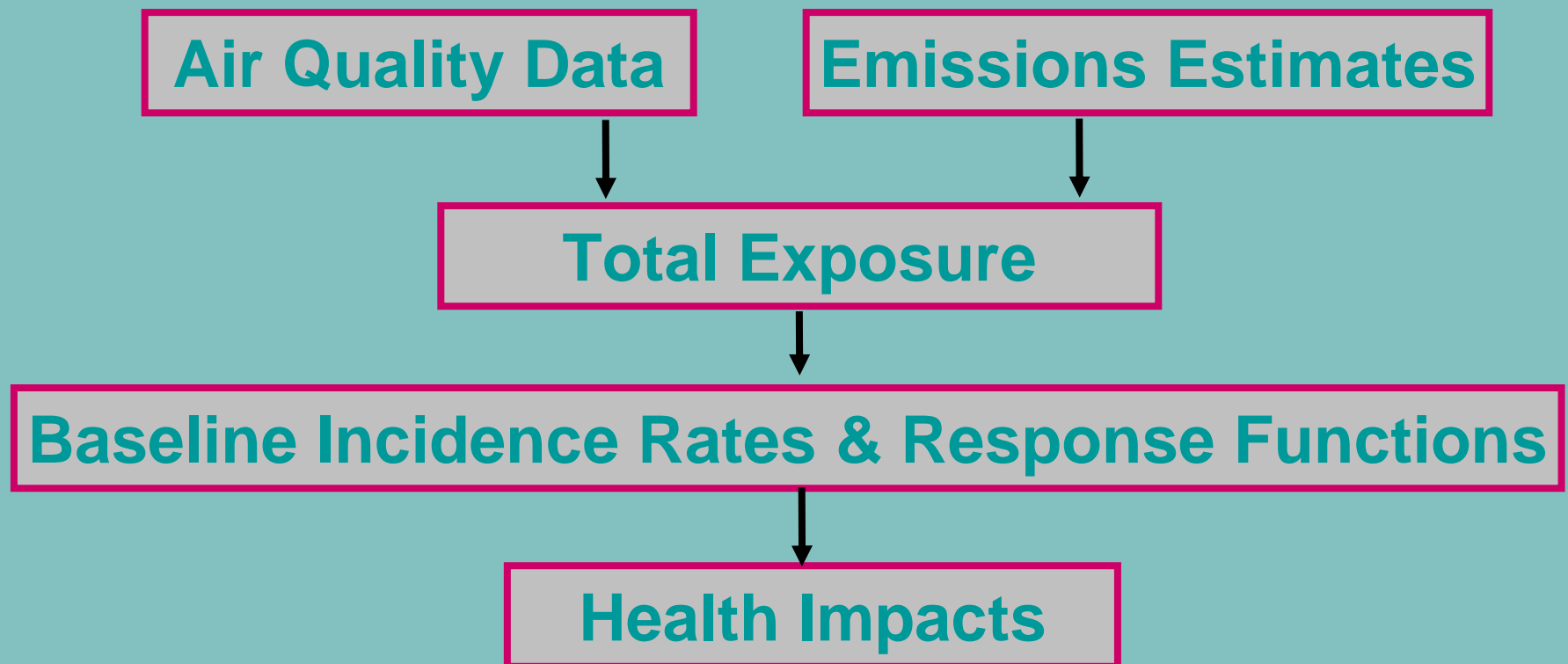
- **Background**
- **Key steps of non-cancer health impacts analysis**
- **Air quality in Commerce**
- **Health impacts in South Coast Air Basin**
- **Next steps**

## **Background**

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- **Draft Health Risk Assessments (HRA) for 7 Southern California Designated Railyards released**
  - UP Commerce, UP LATC, UP Mira Loma, BNSF Hobart, BNSF Sheila, BNSF Commerce/Eastern
  - Cancer risk considered
- **Staff is considering the non-cancer health impacts**

# Key Steps of Methodology



## ■ Methodology

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- Developed and used by U.S. EPA
  - Diesel regulatory impact analysis
- Endorsed by national and international health organizations
- Used by ARB/OEHHA for State ambient air quality standards for PM and Ozone
- Used by ARB for diesel PM control measures and Goods Movement on a statewide basis

## **Sources of Information**

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- Scientific peer-reviewed publications
- ARB's 2002 PM standards review
- ARB's 2005 ozone standard review
- U.S. EPA's PM standard review

## ■ **Health Endpoints Considered**

- Staff sought sufficient evidence from scientific literature to quantify health endpoints
- 7 outcomes quantified for PM, including some combined endpoints (all-cause mortality, asthma and respiratory effects)
- Other endpoints are addressed qualitatively

## ■ **Health Endpoints Quantified**

- Premature death
- Hospital admissions (heart)
- Hospital admissions (lung)
- Acute bronchitis
- Asthma/other respiratory symptoms
- Work loss days
- Minor restricted activity days



## ■ Trends in PM<sub>2.5</sub> Exposures

- City of Commerce:
  - 25.6  $\mu\text{g}/\text{m}^3$  in 1999
  - 17.6  $\mu\text{g}/\text{m}^3$  in 2005
- South Coast Air Basin:
  - 22.2  $\mu\text{g}/\text{m}^3$  in 1999
  - 15.9  $\mu\text{g}/\text{m}^3$  in 2005

## **Update Methodology**

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- Update PM<sub>2.5</sub>-death relationship
- Update diesel PM concentrations
- Consider applying methodology to smaller populations and smaller changes in PM concentrations
- Methodology currently under peer review

## ■ **Next Steps**

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- Release update methodology to the public and present results in a workshop in January 2008
- Present to the Board in early 2008
  - Update health impacts associated with Goods Movement, including rail
- For more info:
  - <http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm>

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**■ END of SLIDES for Nov 13, 2007**

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